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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/363,013	07/29/1999	ROBERT S. SCHEFEE	2920-223	7577

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EXAMINER	
FELTON, AILEEN BAKER	
ART UNIT	**PAPER NUMBER**
3641	

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/363,013	SCHEFEE ET AL.	
	Examiner	Art Unit	
	Aileen B Felton	3641	

-- The MAILING DATE of this communication appears n the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The finality of the action of Paper No. 14 is withdrawn in view of the decision from the Board of Patent Appeals and Interferences. An action on the merits appears below.

Specification

2. The disclosure is objected to because of the following informalities: On pg. 7, line 16, it appears that "H_2O_2" should be changed to "H_2O".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 15-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims all recite a mixture of hydrogen peroxide and ethanol. It is unclear how Applicant obtains this mixture since these ingredients when combined are immediately combustible. Thus, it would not be possible to hold these ingredients in a mixture for later use since they would combust upon contact. See US 3,700,393 to Mueller, which describes in an example the exact concentration of the hydrogen peroxide and nearly identical weight percents of hydrogen peroxide and ethanol. The specification discloses that they combust upon delivery to the combustion chamber.

Since the amounts and concentrations are the same, it does not seem possible for Applicant to combine these two ingredients without an identical result.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 19 recites the use of 3-8 % of water. This is inconsistent with claims 16 and 17, which recite 70 % concentration hydrogen peroxide of 77-80 weight %. A 70 % concentration hydrogen peroxide solution will have the remaining amount as water (30%). Thus, the total water content of that aqueous solution would be 23.1-24 % water.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Barnes(3,072,020).

Barnes discloses a monopropellant that comprises a mixture of ethyl alcohol and hydrogen peroxide (see col. 1, lines 28-32).

9. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Fletcher(3,036,940).

Fletcher discloses a monopropellant that is a solution of ethyl alcohol in hydrogen peroxide (see col. 1, lines 37-45).

10. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Mueller(3,700,393).

Mueller discloses a mixture of 86.35 % of hydrogen peroxide of 70 % concentration in water mixed with 13.65 % ethyl alcohol (see table 1). The mixture is formed when the hydrogen peroxide and ethyl alcohol are fed into the combustion chamber. This mixture exists for a brief moment and is thus a transitory reference. See In re Breslow, 205 USPQ 221, which stands for the proposition that transitory intermediates are patentable. If they are patentable, then they must also, perforce, be effective as prior art. Thus, these admittedly transitory compositions must be relevant prior art and the claims are anticipated thereby.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller(3,700,393) as applied to claims 15 and 16 above.

Mueller fails to disclose the precise claimed amounts of the hydrogen peroxide.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the amounts of the hydrogen peroxide since the reference

discloses that the amount is 86.35 % which is extremely close to the claimed range of 77-80 % and would not result in a material difference in the performance of the propellant. One having ordinary skill in the art at the time the invention was made would know to vary the parameters of the propellant to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

13. Claim 16-20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes(3,072,020) and Fletcher(3,036,940) as applied to claim 15 above, and further in view of Mahan(3,020,708) and Mueller(3,700,393).

Barnes and Fletcher do not disclose the use of additional water in a composition with hydrogen peroxide and ethyl alcohol or the particular amounts.

Mahan teaches the use of a composition that is a mixture of hydrogen peroxide and a fuel such as ethyl alcohol-water (see col. 1, lines 44-50).

Mueller teaches a mixture of 86.35 % of hydrogen peroxide of 70 % concentration in water mixed with 13.65 % ethyl alcohol (see table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ethyl alcohol-water as the fuel with the compositions of Barnes and Fletcher since it is taught by Mahan that it is a known fuel for rocket propellant applications. One of ordinary skill would be able to apply these teachings since the fuel is used in the same application with the same oxidizer material. It would also have been obvious to one having ordinary skill in the art at the time the invention

was made to follow the teachings of Mueller which suggest particular concentrations of hydrogen peroxide and weight % of hydrogen peroxide and ethanol since that teaching indicates that it is known to use these amounts in a rocket application which is the same application as in Barnes and Fletcher which only discloses that this mixture is a known one. One having ordinary skill would know to vary the amounts of the hydrogen peroxide since the Mueller discloses that the amount is 86.35 % which is extremely close to the claimed range of 77-80 % and would not result in a material difference in the performance of the propellant. One having ordinary skill would know to vary the parameters of the propellant to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

14. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes(3,072,020) and Fletcher(3,036,940) as applied to claim 15 above, and further in view of Mueller(3,700,393).

Barnes and Fletcher do not disclose particular amounts of hydrogen peroxide and ethyl alcohol or the concentration of hydrogen peroxide.

Mueller teaches a mixture of 86.35 % of hydrogen peroxide of 70 % concentration in water mixed with 13.65 % ethyl alcohol (see table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to follow the teachings of Mueller which suggest particular concentrations of hydrogen peroxide and weight % of hydrogen peroxide and ethanol

since that teaching indicates that it is known to use these amounts in a rocket application which is the same application as in Barnes and Fletcher which only discloses that this mixture is a known one. It would also have been obvious to one having ordinary skill in the art at the time the invention was made to vary the amounts of the hydrogen peroxide since the Mueller discloses that the amount is 86.35 % which is extremely close to the claimed range of 77-80 % and would not result in a material difference in the performance of the propellant. One having ordinary skill in the art at the time the invention was made would know to vary the parameters of the propellant to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Japanese documents 56014584, 0209962, 07315345, and an article by P.R. Stokes.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen Felton whose telephone number is (703) 306-5751. The examiner can normally be reached on Monday through Friday from 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198.

The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687. The fax number for submissions before a final action is (703) 872-9326, for after final submissions is (703) 872-9327, and customer service is (703) 872-9325.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Aileen B. Felton

Aileen B. Felton

APPROVED BY
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